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Tomato Fungicide Guide for Indiana 2009

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EXPERT REVIEWED

Fungicide Information					Common Foliar diseases[1]								Comments
Fungicides with a number in the MOA column should be tank mixed or alternated with a product with a different MOA code according to the label.													The comments below are intended to facilitate product selection. Always read the fungicide label first for additional information on rates, fungicide resistance, safety, etc. **REMEMBER: the label is the law.**
Trade Name(s)	**MOA Code**	**Common Name(s)**	REI (hours)[2]	PHI (days)[3]	anthracnose	bacterial canker	bacterial spot/speck	buckeye rot	early blight	Septoria leaf spot	leaf mold	powdery mildew	
Actigard®	P[4]	acibenzolar-S-methyl	12	14			X						Do not apply to stressed plants.
Amistar®, Quadris®	11	azoxystrobin	4	0	X			X	X	X		X	Compare with Quadris Opti®. Alternate all group 11 fungicides.
Bravo®, Echo®, Equus®	M	chlorothalonil	12	0	X				X	X	X		Effective against a wide range of fungal diseases. Not for greenhouse use.
Cabrio®	11	pyraclostrobin	12	0	X				X	X		X	Alternate all group 11 fungicides.
copper (many trade names)	M	copper	24	0	L	X	X		L	L	X		Applications for bacterial canker only effective in greenhouse.
Endura®	7	boscalid	12	0					X				Increase spray volume as plants grow.
Gavel®	M 22	mancozeb zoxamide	48	5				X	X	X	X		May be used with copper products to manage bacterial spot/speck.
Maneb®, Manex® Dithane®, Manzate®, Penncozeb®	M M	mancozeb maneb	24	5	X				X	X	X		Some labels include greenhouse uses.
Quadris Opti®	11 M	azoxystrobin chlorothalonil	12	0	X			X	X	X		X	Premix. Compare with Amistar® and Quadris®. Alternate all group 11 fungicides.
Rally®	3	myclobutanil	24	0								X	Do not exceed 21-day application interval.
Reason®	11	fenamidone	12	14					X	X			Do not rotate with other group 11 fungicides.
RevusTop®	3 40	difenoconazole mandipropamid	12	1	X				X	X	X	X	Make no more than 2 consecutive applications before alternating.
Scala®	9	pyrimethanil	12	1					X				Label includes greenhouse instructions.
Tanos®	27 11	cymoxanil famoxadone	12	3	X	S	S	S	X	X	X		Must be tank mixed with a contact fungicide *and* alternated with a fungicide with a different MOA code.

[1]Symbols key: X=product labeled and effective based on research and experience. L=product labeled but may not be the most effective product available. S=disease suppression only.
[2]REI (re-entry interval) in hours: do not enter or allow workers to enter treated areas during the restricted REI period.
[3]PHI (pre-harvest interval) in days: the minimum time that must pass between the last pesticide application and crop harvest.
[4]Host plant defense inducers.

Detailed information on disease management and other aspects of vegetable production available in the *Midwest Vegetable Production Guide for Commercial Growers 2009* (ID-56)

Tomato Management Time Line

Disease	Winter/off-season	Greenhouse	Planting	Fruit set	Harvest
anthracnose	Rotate crops at least 2-3 years and practice fall tillage.			Begin fungicide applications at or shortly before first fruit set.	Inspect fruit for lesions.
bacterial canker	Rotate crops at least 3-4 years and practice fall tillage.	Inspect seedlings for symptoms and apply fixed copper compounds as needed.	Do not plant seedlings with bacterial canker symptoms.	Inspect plants for bacterial canker symptoms.	Inspect fruit for bacterial canker symptoms.
bacterial spot/speck	Rotate crops at least 2-3 years and practice fall tillage.	Inspect seedlings for symptoms and apply fixed copper compounds as needed.	Do not plant seedlings with symptoms of bacterial spot/speck. Begin fixed copper applications on a 7-14-day schedule.		Inspect fruit for bacterial spot/speck symptoms.
buckeye rot and Phytophthora root rot	Rotate crops at least every 3 years and practice fall tillage. Avoid poorly drained soils. Use raised beds. Mulch may lessen buckeye rot's impact		Consider fungicide drench. Regular fungicide schedule may lessen buckeye rot effects.	Consider specialized fungicides for Phytophthora diseases.	Inspect fruit.
early blight/Septoria	Use crop rotations of at least 2-3 years for Septoria and 3-4 years for early blight.		Begin protective fungicide applications on a 7-14 day schedule.		
powdery mildew	Crop rotations and fall tillage are only moderately important for powdery mildew.	Powdery mildew is more common on tomatoes grown to maturity in the greenhouse than those grown in the field.	Reduce humidity by venting greenhouses and pruning excess foliage. Use systemic fungicides.		
timber rot (white mold)	Long rotations with corn or small grains.	Timber rot may be common where tomatoes are grown yearly in the same soil such as under a greenhouse structure.		Inspect plants for timber rot symptoms.	
leaf mold	Rotate crops at least 2-3 years and practice fall tillage. Use sanitation in greenhouse tomatoes.	Leaf mold is more common on tomatoes grown to maturity in the greenhouse than those grown in the field.	Control relative humidity by venting greenhouse and pruning. Labeled fungicides may help control leaf mold.		

Post-Harvest Care

Firm-ripe tomatoes should be cooled to 45-50°F. Clean and disinfect all picking containers and equipment. Maintain chlorine/bromine levels at 75-150 ppm at a pH of 6.5-8.5 in recirculating water systems.

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